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CENTRAL INTELLIGENCE AGENCY  
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**INFORMATION REPORT**

REPORT NO. [REDACTED]  
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COUNTRY China/Macao/Hong Kong  
SUBJECT Negotiations for Marine Engines in Hong Kong

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SUPPLEMENT TO  
REPORT NO.

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25X1X 1. Six hundred Gray marine diesel engines have been offered for sale by an unidentified representative of T. V. SOONG in Macao. A former Nationalist official not associated with SOONG was in mid-October 1950 trying to purchase the engines for resale to an unnamed customer, presumably Chinese Communist. The price of the engines was not stated in the original offer. Several Hong Kong commercial people intended to go to Macao to inspect the engines and learn particulars.

2. Specifications of the engines, Model 64 HN 9 were cited as follows:\*

General Specification for Gray Marine Diesel

Model. 64 HN9

Specification:

Engine Model.....	64-HN9
Number of Cylinders.....	6
Borand Storks, inches.....	4 1/4 x 5
Total Displacement.....	452 cu. inches.
B.M.E.P. lbs per sq in. at maximum power ration.....	99.83
Compression Ratio.....	16.1
Number of Exhaust Valves per cylinder.....	2.
Exhaust Valve diameter.....	1-9/16
Number of Main Bearings.....	7.
Main Bearing Diameter, inches.....	3-1/2
Main Bearing Length, inches.....	1-1/8.
Main Bearing Projected area, sq in. ....	27.56
Crankpin diameter, inches.....	2-3/4
Crankpin Bearing length, inches.....	1-25/32
Crankpin Bearing projected area, sq. area inches.....	29.37
B.H.B. ....	225 H.P. at 2100 RPM.

**CLASSIFICATION**

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ARMY	<input checked="" type="checkbox"/> AIR	<input type="checkbox"/> FBI	COMINT	COMINT	COMINT	COMINT	COMINT

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This document is hereby regraded to  
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Installation Data:

Maximum installation angle, deep sump 20 degrees.  
 Maximum installation angle, flat pan 16 degrees.  
 Exhaust Flange (ISP) inches..... 4.  
 Water inlet (ISP) inches ..... 1-1/2  
 Fuel Inlet Fitting, inches..... 3/8 O.D. Tubing  
 Fuel outlet Fitting, inches..... 5/16 O.D. Tubing  
 Maximum width inches..... 30-5/8  
 Leg Bolt centers, inches..... 25

Firing Order: ..... 1-5-3-6-2-4-

Starter: ..... 12-volt, flange mounted unit with positive engagement of pinion through solenoid relay switch.

Generator: ..... 12-volt, 225-watt generator with voltage regulator belt driven. Cuts in at 560 rpm. reaches maximum charge of 16-18 amps. at 950.

Lubrication oil filter:.. A partial flow absorption-type color filter subjects all engine oil to extremely fine filtering.

Fuel filters: ..... Main 3 stage filter separate from engine, absorption type filter mounted on engine, also small auxiliary filters, consisting of porous metal elements, built into each injector.

Transmission Ratio: ..... 1-5-1.

Rotation: Right Hand Propeller.

Capacities

Engine Crankcase. Lubrication oil ..... (dry engine) 20-32 quarts  
 (wet engine) 16-26 quarts

(Figure given is minimum required of refill and depends on angle of installation and type of oil pan used.) Fill grade of diesel oil, S.A.E. No. 30

Clutch and reverse gear: lubrication oil ..... 6 quarts.

Fresh Water cooling system..... 35 quarts  
 Fresh Water pump capacity..... 80-90 Gal. per min  
 at 2100 rpm.  
 Sea water pump capacity..... 56 gal per min at  
 2100 rpm.  
 Lubrication oil pressure..... 40-50 lbs.

Standard Clearances

Piston in cylinder liner..... .006-.007  
 Piston Ring Gap: 4 compression rings 1/8 ..... .20-.025

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Piston Ring Cap: 2 oil control rings, 3/16 .....	010-020
Piston Pin in piston, cold .....	1.6025
Piston Pin in upper red bearings .....	0025-0032
Connecting rod lower bearing .....	002-004
Main bearings .....	002-004
Valve stem .....	001-003
Valve Tapet adjustment, Hot.....	012
Timing gear backlash .....	004-006
Blower Drive Gear End Clearance .....	003-006
Blower Drive Bushing to Hub Clearance .....	001-002
Idler Gear Bearing .....	003-006
Idler Gear End Play .....	003-006
Camshaft Bearing .....	025-004
Camshaft Bearing end clearance .....	008-014
Crankshaft End Clearance .....	0025-0075

Engine Timing in Crankshaft Degrees

Injection begins .....	2-1/2 deg. before top dead center.
Injection ends .....	5 deg. before top dead center.
Injection period .....	17-1/2 deg.
Exhaust Valve open .....	87-1/2 deg. before bottom dead center.
Exhaust Period .....	132 deg.
Exhaust Valve close .....	44-1/2 deg. after bottom dead center.
Intake port open .....	48 deg. before dead bottom center.
Intake port close .....	48 deg. before bottom dead center.
Intake period .....	96 degrees.

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\* [REDACTED] Comment: Specifications are copied exactly as received.~~SECRET/CONTROL - U.S. OFFICIALS ONLY~~**CONFIDENTIAL**